

## New Species and Records of HesperIIDae from Mexico (Lepidoptera)

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**Abstract:** Five new species and seven new records of hesperiids are described from Mexico. The new species, described and illustrated, are *Atrytonopsis zweifeli*, *Camptopleura oaxaca*, *Decinea rindgei*, *Thoon wellingi*, and *Urbanus hubbellus*. The localities of the new records are given and the previously known localities are included.

Recently I received from the American Museum of Natural History a number of Mexican HesperIIDae for determination. Among these specimens was found five new species and seven new records for Mexico.

In describing the new species where reference is made to the venation of the wings by number, the English system of numbering the veins of each wing from the lowest vein upwards is followed.

### *Urbanus hubbellus*, new species

Figs. 1, 2, 15

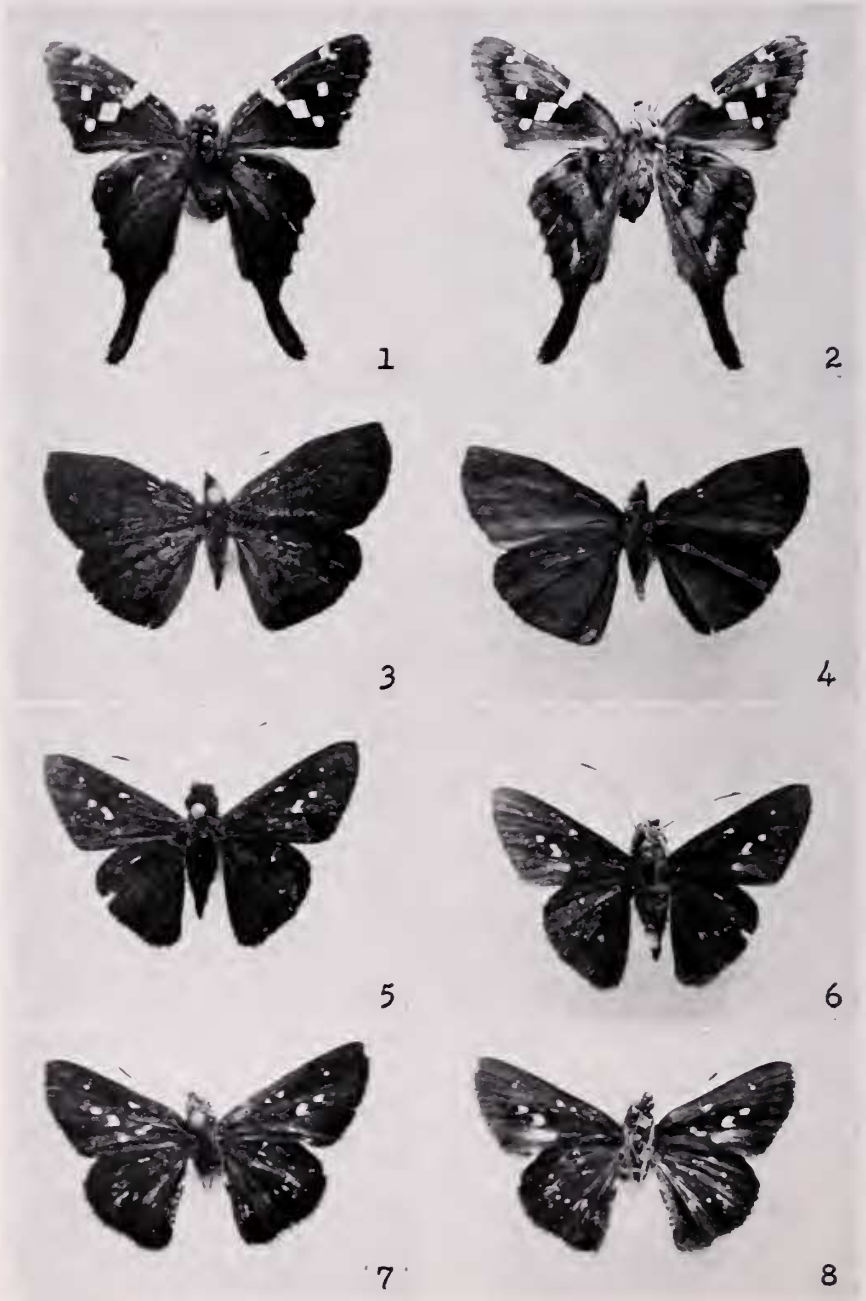
**Male** (Upper Side): Primaries dark brown, with some green hair scales near the base. The transverse discal band is made up of four white hyaline spots. The one in space 1b is roundish and situated slightly outward from the spot in space 2. The spot in space 2 is squarish and located just barely outward from the cell spot. The cell spot is broadly columnar, and above this is a broader spot just below the costa. There is a white hyaline spot near the middle of space 3 which is broadly columnar in shape. There are three well defined subapical spots, of the same coloration as the discal spots, in spaces 6, 7, and 8. The two upper ones are approximately the same length, elongated and superimposed, while the lower one is smaller and extends from just under the outer edge of the spot in space 7 outwardly to a little beyond it. The end of the cell and the veins outwardly are slightly darker than the ground color. The fringes are checkered. There is no costal fold present.

Secondaries dark brown, with the cell, the inner two-thirds of the basal area, and along the abdominal fold to the beginning of the tails heavily overscaled with shiny blue hair scales, which become green along the outer edge of this area. The tails are 9 mm long. The fringes above the tails are lightly checkered. The outer margin from the apex to the tail is evenly straight.

**Male** (Under Side): Primaries pale brown, with the hyaline spots all repeated and of the same white coloration as above. There are scattered whitish scales over the end of the cell beyond the white hyaline spots and towards the outer margin of the wing, and

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FIGS. 1, 2. *Urbanus hubbellus*, new species. Holotype, male, Sinaloa, Sinaloa, Mexico, March-April, 1964 (P. Hubbell; A.M.N.H.).

these group to form an ill-defined white bar at the end of the cell. There is a distinct darker brown band from the costal margin to space 2, outwardly bordering the subapical spots and the spot in space 3, while in space 2 the band is produced inwardly nearly to the base. The inner edge of this dark band is uniformly even but the outer edge is extended slightly along each vein.

Secondaries pale brown, with a slight purplish cast. The subbasal band of dark brown spots is composed of two equal size, squarish spots in space 7; a narrow, white-bordered spot across the cell directly under the space between the two spots in space 7; another somewhat double spot, slightly white bordered below the base of vein 2. There is a dark discal band extending from vein 6 downward where it is white edged at the bottom. The ground color is darker brown over the surface of the tails and extending upward along the outer margin to vein 4, fusing into the discal band except where it is white edged.

Thorax above dark brown, with some blue hair scales present, beneath lighter brown. Abdomen dark brown above heavily overscaled with blue hair scales, beneath lighter brown. Head brown with some intermixed yellowish scales present. Palpi sordid white. There is a whitish band behind and below each eye. Pectus grayish-brown. Legs brown. Antennae, both shaft and club, dark brown above, below lighter with the terminal end of the shaft and club yellowish.

WING MEASUREMENTS: Primaries; base to apex, 20 mm; apex to outer angle, 13 mm; outer angle to base, 13 mm. Secondaries; base to end of vein 3, 12 mm; center of costa to end of tail, 23 mm. Total expanse: 37 mm.

TYPE MATERIAL: Holotype, male, Sinaloa, Sinaloa, Mexico, March-April, 1964, Peter Hubbell, in the American Museum of Natural History, N. Y.

Superficially *U. hubbellus* resembles *U. esta* Evans, however there are several ways in which they differ: (1) The cell spot is slightly broader in *hubbellus* than in *esta*; (2) the spot above the cell is broader than the cell spot in *hubbellus*, whereas it is not as broad as the cell spot in *esta*; (3) the subbasal and discal spots and bands on the under side of the secondaries are much larger and more pronounced in *esta* than in *hubbellus*; (4) the marginal area on the under side of the secondaries is darker in *hubbellus* and fuses into the discal band, while this does not occur in *esta*; and (5) the general ground color on the under side of the secondaries is lighter in *esta* than it is in *hubbellus*. The genitalia are not at all like those of *esta* as can be seen in figure 15, plate 3.

#### *Astraptus talhybius* (Mabille)

This species was described from a female collected in Brazil and appears to be a rather rare species as yet. Evans records three specimens from the British Museum: 1 ♂, Honduras; 1 ♀, Guatemala; and 1 ♂, Nicaragua. Among the specimens received for determination from the American Museum of

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FIGS. 3, 4. *Camptopleura oaxaca*, new species. Holotype, male, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 13 August 1961 (E. C. Welling; A.M.N.H.).

FIGS. 5, 6, 7, 8. *Thoon wellingi*, new species. 5, 6. Holotype, male, Yetla, near Valle Nacional, Oaxaca, Mexico, 13 September 1961 (E. C. Welling; A.M.N.H.). 7, 8. Allotype, female, same location, 9 September 1961 (E. C. Welling; A.M.N.H.).



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FIGS. 9, 10, 11, 12. *Decinea rindgei*, new species. 9, 10. Holotype, male, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 5 August 1961 (E. C. Welling; A.M.N.H.). 11, 12. Allotype, female, Fortin de los Flores, Veracruz, Mexico, 15 August 1967 (H. A. Freeman; H.A.F.).

FIGS. 13, 14. *Atrytonopsis zweifeli*, new species. Holotype, male, 1 mile south Cedritos, Coahuila, Mexico, 23 June 1957 (R. Zweifel; A.M.N.H.).

Natural History was found a female *talhythibus* that had been collected at Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 4 August 1961, by E. C. Welling. This is the first record for this species for Mexico.

*Potomanaxas unifasciata* (Felder)

Described from Colombia, this species has been recorded from Costa Rica, Nicaragua, Colombia, Ecuador (Balzapamba. Paramba. Angamarca), and Peru (El Porvenir) by Evans. There is a female specimen of this species in the American Museum of Natural History from Chiltepec, Oaxaca, Mexico, 23 September 1961, collected by E. C. Welling. This constitutes a new record for Mexico.

*Cycloglypha tisis* (Godman & Salvin)

The type locality of this species is Costa Rica. Evans records it from the following localities: Costa Rica, Panama, Colombia, Trinidad, Br. Guiana, Fr. Guiana, Ecuador (Balzapamba), Peru, Bolivia, Upper Amazona (Iquitos), Maranhã, Minas Geraes, and S. Brazil. There is a male specimen of this species in the American Museum of Natural History from Puerto Eligio, near Comaltepec, Oaxaca, Mexico, 30 October 1961, collected by E. C. Welling. This is the first record of this species for Mexico.

*Camptopleura oaxaca*, new species

Figs. 3, 4, 16

**Male** (Upper Side): Primaries dark brown, with a heavy suffusion of grayish-brown scales from the discal area to the base. There are indistinct submarginal and discal dark markings which are barely discernible. There is a well developed costal fold present. Fringes concolorous with wing.

Secondaries dark brown, with a heavy suffusion of grayish-brown scales from the discal area basad. There are indistinct basal, subbasal, and discal wavy dark lines that are barely discernible due to the heavy over-scaling of lighter gray-brown scales. Fringes concolorous with wing.

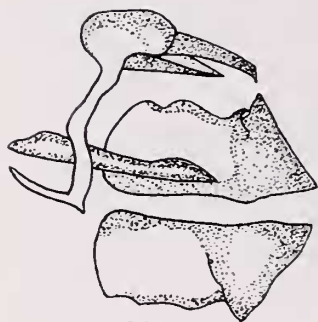
**Male** (Under Side): Primaries light brown, with the slightest indication of marginal and discal markings, and it is slightly lighter in coloration in space 1a.

Secondaries uniform light brown, with very faint marginal and discal markings present. Thorax above dark brown, lighter beneath. Abdomen dark brown above, lighter beneath. Head dark brown. Palpi grayish-brown. Legs brown. Antennae, club and shaft, brown above and below.

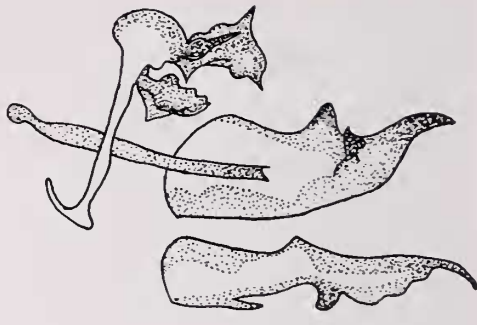
WING MEASUREMENTS: Primaries; base to apex, 17 mm; apex to outer angle, 12 mm; outer angle to base, 14 mm. Secondaries; base to end of vein 3, 14 mm; center of costa to anal angle, 12 mm. Total expanse: 35 mm.

TYPE MATERIAL: Holotype, male, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 13 August 1961, collected by E. C. Welling, is in the American Musuem of Natural History.

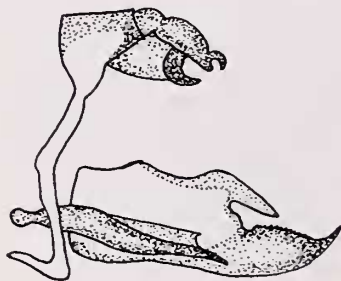
The nearest related species to *C. oaxaca* is *C. janthinus* (Capronnier) from the Upper Madeira River, Amazonas, Brazil, from which it can be sepa-



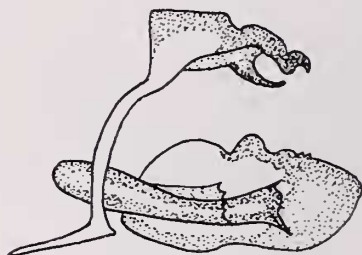
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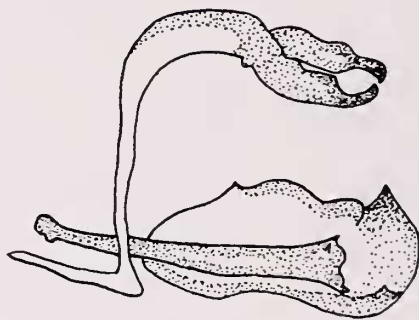
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FIGS. 15-19. Male genitalia. 15. *Urbanus hubbellus*, new species, Holotype, Sinaloa, Sinaloa, Mexico, March-April, 1964 (P. Hubbell; A.M.N.H.). 16. *Camptopleura oaxaca*, new species, Holotype, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 13 August 1961 (E. C. Welling; A.M.N.H.). 17. *Thoon wellingi*, new species, Holotype, Yetla, near Valle Nacional, Oaxaca, Mexico, 13 September 1961 (E. C. Welling; A.M.N.H.). 18. *Decinea rindgei*, new species, Holotype, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 5 August 1961 (E. C. Welling; A.M.N.H.). 19. *Atrytonopsis zweifeli*, new species, Holotype, 1 mile south Cedritos, Coahuila, Mexico, 23 June 1957 (R. Zweifel; A.M.N.H.).

rated by the following characteristics: (1) **Oaxaca** is dark rich brown above, while *janthinus* is black; (2) on the lower surface of the secondaries *janthinus* is dark brown with a purple gloss, while **oaxaca** is light brown with no purple gloss; (3) the average size of the primaries of *janthinus* is 19 mm, while the primary of the type of **oaxaca** is 17 mm; and (4) differences in the genitalia.

This new species differs from the other members of the genus *Camptopleura* by having the palpi and pectus below brown and not white as is found in *theramenes* (Mabille), *auxo* (Moschler), *impressus* (Mabille), and *termon* (Hopffer). There are other differences as can be determined in the above description.

*Aecas aecas* (Stoll)

There is but a single species in this genus and Evans records it from the following locations: Guatemala, Nicaragua, Colombia, Venezuela, Trinidad, Br. Guiana, Fr. Guiana, Amazons (Tonantins to Para), and S. Brazil (Espirito Santo). Among the specimens determined for the American Museum of Natural History was found 3 ♂♂ of this species that had been collected by E. C. Welling at the following locations: 1 ♂, Chiltepec, near Chiltepec, Oaxaca, Mexico, 20 September 1961; 1 ♂, Yetla, near Valle Nacional, Oaxaca, Mexico, 11 September 1961; and 1 ♂, same location, 13 September 1961. These are the first records of this species from Mexico.

*Nastra vherminieri* (Latreille)

This species occurs rather commonly in the United States from the eastern states westward to Texas. So far there have been no accurate records of this species from Mexico. In specimens determined for the American Museum of Natural History was found two examples of this species from the following location: 1 ♀, Colima, Col., Mexico, March 1918; and 1 ♀, same area January 1918 (C. C. Hoffmann). This is another new record for Mexico.

*Cymaenes laureolus* (Schaus)

This species is not common, however it has a rather wide range. Evans records it from: Costa Rica, Panama, and Ecuador. Dr. Rindge kindly sent me a ♂ from Coatepec, Veracruz, June 10, and 2 ♂♂ from Panama for study, and he stated that there was another ♂ in their collection from Coatepec, Veracruz, and other specimens from Panama. In addition to the two ♂♂ in the American Museum of Natural History from Coatepec, Veracruz, I have two specimens of this species that I collected at the following locations: 1 ♀, Fortin de los Flores, Veracruz, Mexico, 15 August 1967; and 1 ♀, Xicotepec de Juarez, Puebla, Mexico, 16 August 1967. These four specimens appear to be the only known records of this species from Mexico thus establishing another new skipper record for that country.

*Thoon wellingi*, new species

Figs. 5, 6, 7, 8, 17

**Male** (Upper Side): Primaries dark brown, with no brands present. There are white hyaline spots in spaces 2 and 3, with the one in space 2 narrow and linear, and the one in space 3 rounded. There is a minute white dot in space 6, and a small upper cell spot. There is a semi-hyaline yellow dot in space 1b, directly below the spot in space 2. Fringes are concolorous with the rest of the wing.

Secondaries dark brown, unmarked. Fringes concolorous with rest of the wing.

**Male** (Under Side): Primaries dark brown, somewhat lighter in space 1b, and also near the apex. All spots reappear and the yellow spot in space 1b is better defined than above. There is a purplish gloss over the apical region.

Secondaries deep chocolate brown with a heavy purple gloss over all but spaces 1a and 1b. There is an evenly curved row of five yellow discal spots and a minute one in the cell.

Thorax dark brown above and below. Abdomen dark brown above, slightly lighter beneath. Head dark brown with some dark green scales present. Palpi mingled light brown and gray. Legs dark brown. Antennae, club and shaft, dark brown above, club yellowish beneath.

WING MEASUREMENTS: Primaries; base to apex, 16 mm; apex to outer angle, 11 mm; outer angle to base, 11 mm. Secondaries; base to end of vein 3, 10 mm; center of costa to anal angle, 12.5 mm. Total expanse: 32 mm.

**Female** (Upper Side): Primaries dark brown, similar to the male except the spots are all slightly larger and there is a minute dot in space 7. Fringes concolorous with rest of wing.

Secondaries dark brown, with an indistinct curved row of yellowish discal spots. There is a very minute yellowish cell spot. Fringes concolorous with rest of wing.

**Female** (Under Side): Primaries dark brown, with a broad yellowish-white area in space 1b. There is a heavy purple gloss over all of the upper two-thirds of the wing. All spots reappear, and there is the slightest indication of a tiny lower cell spot below the distinct upper one.

Secondaries dark chocolate brown, with a heavy purple gloss present over all of the wing except spaces 1a and 1b. There is a well-defined, evenly curved, row of 6 yellowish discal spots, and one in the cell.

Thorax dark brown, with some green hair scales present above, below dark brown. Abdomen dark brown, both above and below. Head dark brown, with a few green scales present. Palpi mingled light brown and gray. Legs brown. Antennae, shaft brown above and below; club, brown above, lower half yellow below, remainder brown.

WING MEASUREMENTS: Primaries; base to apex, 17 mm; apex to outer angle, 11.5 mm; outer angle to base, 12.5 mm. Secondaries; base to end of vein 3, 12 mm; center of costa to anal angle, 12 mm. Total expanse: 33 mm.

TYPE MATERIAL: Holotype, male, Yetla, near Valle Nacional, Oaxaca, Mexico, 13 September 1961. Allotype, female, same location, 9 September 1961. Both collected by E. C. Welling, and are in the American Museum of Natural History.

The nearest related species to *T. wellingi* is *T. aethus* Hayward from which it can be separated by the following characteristics: (1) The ♂♂ of *aethus* have two cell spots, while *wellingi* has only a small upper one; (2) on the under surface of the primaries *aethus* has the outer half of spaces 1a and 1b conspicuously white, while this area is less conspicuous in *wellingi* and more yel-



lowish; (3) the purple gloss is heavier in **wellingi** on the under surface of the wings than it is in *aethus*; (4) the discal spots on the under surface of the secondaries are yellowish and much more pronounced in **wellingi** than they are in *aethus* where they are white and vestigial; and (5) the genitalia are quite different.

I take pleasure in naming this new species for Sr. Eduardo C. Welling of Merida, Yucatan, Mexico, who collected the specimens.

*Decinea rindgei*, new species

Figs. 9, 10, 11, 12, 18

**Male** (Upper Side): Primaries dark brown. There is a large white hyaline spot in space 2, and a smaller one in space 3. There are two apical spots, one in space 6, and another much smaller one in space 7. There is a semi-hyaline, yellowish spot in space 1b. There is no cell spot. Fringes light brown.

Secondaries dark brown, with some slightly lighter hair scales near the base. There is a small white hyaline spot in space 3, and an indistinct small spot in space 2. The fringes are light brown.

**Male** (Under Side): Primaries chocolate brown, slightly lighter along outer margin and near the apex. There is a broad yellowish area in space 1. All spots reappear.

Secondaries chocolate brown, slightly lighter along the outer margin. There is a white cell spot, and two white discal spots of about equal size, one in space 2 and the other in space 3.

Thorax both above and below dark brown, with a few yellowish hair scales present. Abdomen dark brown both above and below. Head dark brown with a few yellowish scales present. Palpi intermixed yellow and black. Legs brown. Antennae missing.

WING MEASUREMENTS: Primaries; base to apex, 17 mm; apex to outer angle, 11 mm; outer angle to base, 12 mm. Secondaries; base to end of vein 3, 12 mm; center of costa to anal angle, 12 mm. Total expanse: 35 mm.

**Female** (Upper Side): Primaries dark brown. The spot arrangement and size is very similar to that of the male. Fringes light brown.

Secondaries dark brown. There is the slightest indication of a cell spot. There is a minute white discal spot in space 3. Fringes light brown.

**Female** (Under Side): Primaries are very similar to the male.

Secondaries dark chocolate brown. There is a clear white cell spot, and a clear white discal spot in space 3.

Thorax, abdomen, head, palpi, and legs same as in the male. Antennae: shaft brown above, yellowish below except the lower one third which is brown; club above yellowish at base remainder black, below yellow except under apiculus where it is brown.

WING MEASUREMENTS: Primaries; base to apex, 18 mm; apex to outer angle, 12 mm; outer angle to base, 14 mm. Secondaries; base to end of vein 3, 13 mm; center of costa to anal angle, 13 mm. Total expanse: 35 mm.

TYPE MATERIAL: Holotype, male, Soyolapan el Bajo, near Comaltepec, Oaxaca, Mexico, 5 August 1961, collected by E. C. Welling, in the American Museum of Natural History. Allotype, female, Fortin de los Flores, Veracruz, Mexico, 15 August 1967, H. A. Freeman collector, in the collection of H. A. Freeman. One female Paratype, Catemaco, Veracruz, Mexico, September 1962, in the collection of Dr. Tarsicio Escalante, Mexico, D. F.

This new species is more closely related to *D. percosius* Godman than to any of the other known species, however it differs in the following ways: (1) **Rindgei** has the ground color on the under side of the secondaries chocolate brown, while in *percosius* this area is lighter brown and overscaled with ochreous scaling; (2) the males of *percosius* rarely have a spot in space 1b on the upper side of the primaries, while this spot is present in **rindgei**; (3) on the lower surface of the primaries *percosius* has a restricted whitish area in space 1, while in **rindgei** this area is much more extensive and is yellowish; and (4) there are basic differences in the genitalia .

I take pleasure in naming this new species for Dr. Frederick H. Rindge, Curator, Department of Entomology, American Museum of Natural History.

*Halotus angellus* (Ploetz)

This rare species was described from Chiriqui, Panama. Evans recorded it from Costa Rica and Panama. In the American Museum of Natural History there are two males of this species from Rancho Santa Lucia, Sinaloa, Mexico, October 1964, collected by Peter Hubbell. This constitutes another new Hesperiidæ record for Mexico.

*Atrytonopsis zweifeli*, new species

Figs. 11, 12, 19

**Male** (Upper Side): Primaries brown. There is a very narrow indistinct stigma from base vein 3 to mid vein 1, broken at vein 2 and mid space 1b. There is a large discal spot in space 2, which is overlapped by the fused double spots in the cell. In space 3 there is a very narrow elongated spot which curves outward at the lower end. There are three minute apical spots in a straight line in spaces 6, 7, and 8. All spots are white hyaline. Fringes concolorous with rest of wing.

Secondaries brown, unmarked. Fringes white.

**Male** (Under Side): Primaries brown. All spots reappear and are somewhat better defined than above. There is a yellowish-white area in space 1b beneath the spot in space 2. There is a light overscaling of white scales near the apex.

Secondaries dark brown, lightly overscaled with white scales. There is a dark discal band and a similar subbasal band which contrasts slightly with the dark ground color of the wing. The white fringes extend nearly to the base of the wing along the costal area.

Thorax dark brown above and below. Abdomen dark brown both above and below. Head dark brown, sordid white at base of eyes. Palpi intermixed sordid white and dark gray. Legs brown. Antennae; shaft brown above and below, club black above being somewhat lighter at the base, below lower half yellow and the remainder black, the apiculus is brown.

WING MEASUREMENTS: Primaries; base to apex, 19.5 mm; apex to outer angle, 14 mm; outer angle to base, 13 mm. Secondaries; base to end of vein 3, 13 mm; center of costa to anal angle, 14.5 mm. Total expanse: 38 mm.

TYPE MATERIAL: Holotype, male, 1 mile south Cedritos, Coahuila, Mexico, 23 June 1957, collected by R. Zweifel, in the American Museum of Natural History. One male Paratype, Durango-Villa Union Highway, Rt. 40, Sinaloa,

Mexico, 29 April 1966, collected by Peter Hubbell, in the American Museum of Natural History.

The nearest related species to *A. zweifeli* is *A. lunus* (Edwards). The following characteristic separate the two species: (1) The ground color of *zweifeli* is slightly darker than *lunus* both above and below; (2) *lunus* has the spot in space 2 situated in the center beneath the spot in space 3 and the fused cell spots, while *zweifeli* has the spot in space 2 situated under the outer half of the cell spots; (3) *lunus* has the spot in space 3 oval and better defined than in *zweifeli* where this spot is very linear and indistinct; (4) the apical spots are much larger in *lunus* than they are in *zweifeli*; (5) the fringes of the secondaries are clearer white in *zweifeli* than they are in *lunus*; and (6) there are differences in the genitalia.

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